

**REMARKS**

Claims 1-11 are currently cancelled in lieu of claims 12-21 to fix unintentional typographical errors, to obviate the Examiner's indefinite rejection, and to conform the claims to U.S. practice.

Applicant asserts no subject matter has been relinquished by these amendments. Additionally, these amendments do not introduce new matter within the meaning of 35 U.S.C. §132.

**1. Rejection of Claim 9 Under 35 U.S.C. § 112, 2<sup>nd</sup> Paragraph**

The Office Action states claims 4 and 5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Office Action states,

The claims refer to variables that are as defined for formula (I). However, neither claim recites the formula (I) or have language which points to the location of formula (I) in the claims. Please correct.

**RESPONSE**

Claim 9 has been cancelled rendering the above rejection moot. Accordingly, Applicant kindly requests the Examiner to withdraw this rejection.

**2. Rejection of Claims 1-3 and 7-11 Under 35 U.S.C.**

**§102(b)/103(a)**

The Office Action states that claims 1-3 and 7-11 are rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative, obvious over U.S. Patent 5,739,366 (herein referred to

as "Imuta, et al."). In particular, the Office Action states,

The '366 patent disclose the compounds rac-Dimethylsilyl-bis{1-(2,3,7-trimethyl-4-phenylethylindenyl)}zirconium dichloride and rac-Dimethylsilyl-bis{1-(2,3,7-trimethyl-4-phenyldichloromethylindenyl)} zirconium dichloride. See column 11, lines 8-11. The disclosed compounds are useful as catalyst precursors for the polymerization of olefins. See column 1, lines 11-20. The '366 patent differ from the instant application in that the above mention compounds are not part of the compounds used in the examples. However, one skilled in the art would expect the above mention compounds to similar properties as the exemplified compounds and therefore be useful as catalyst precursors in olefin polymerization reactions.

#### RESPONSE

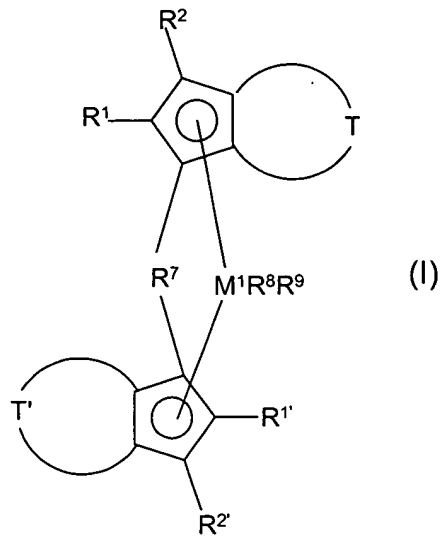
Claims 1-3 and 7-11 have been cancelled rendering the above rejection moot. Notwithstanding, since anticipation is an absolute epitome of obviousness, if a claim is not rendered obvious, it necessarily is not anticipated.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under § 103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

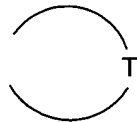
To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988);

In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

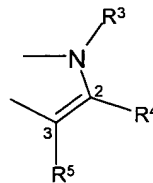
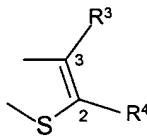
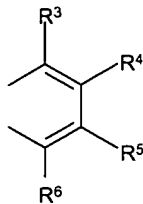
Applicant respectfully believes Imuta, et al. fails to disclose, teach, or suggest, "A transition metal compound of formula (I)



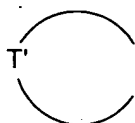
wherein



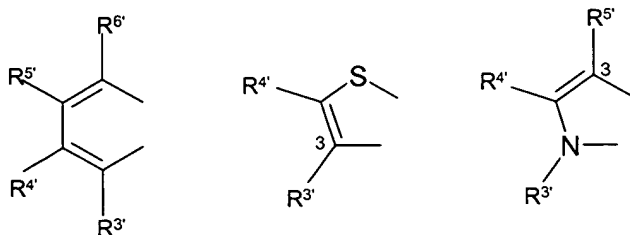
is a divalent group selected from



and



is a divalent group selected from



wherein

$M^1$  is titanium, zirconium, or hafnium;

$R^1, R^2$  are identical or different, and are each a  $C_1$ - $C_{20}$  group;

$R^1, R^2$  are identical or different, and are identical to or different from  $R^1$  or  $R^2$ , and are each hydrogen or a  $C_1$ - $C_{20}$  group;

$R^3$  is a  $C_6$ - $C_{18}$ -aryl group, a  $C_4$ - $C_{18}$ -heteroaryl, a fluorinated  $C_6$ - $C_{20}$ -aryl or  $C_7$ - $C_{20}$ -alkylaryl, wherein the aryl part of any of the preceding groups may bear at least one linear or branched  $C_1$ - $C_{18}$ -alkyl,  $C_1$ - $C_{18}$ -alkoxy,  $C_2$ - $C_{10}$ -alkenyl or  $C_3$ - $C_{15}$ -alkylalkenyl groups as substituents, or  $R^3$  together with  $R^4$  forms a monocyclic or polycyclic ring system which may be substituted;

$R^{3'}$  is hydrogen or a  $C_1$ - $C_{40}$  group, or  $R^{3'}$  together with  $R^{4'}$  forms a monocyclic or polycyclic ring system which may be substituted;

$R^4, R^{4'}$  are identical or different, and are each hydrogen or a  $C_1$ - $C_{20}$  group;

$R^5, R^{5'}, R^6, R^{6'}$  are identical or different, and are each hydrogen or a  $C_1$ - $C_{20}$  group;

$R^7$  is a bridging structural element between the two indenyl radicals of formula (I), and is  $M^2R^{10}R^{11}$ , wherein  $M^2$  is silicon, germanium, tin or carbon; and  $R^{10}$  and  $R^{11}$  are identical or different, and are each hydrogen or a  $C_1$ - $C_{20}$ -hydrocarbon-containing group; and

$R^8, R^9$  are identical or different, and are each a halogen, a linear or branched  $C_1$ - $C_{20}$ -alkyl, or a substituted or unsubstituted phenoxide, or  $R^8$  and  $R^9$  are joined to form a monocyclic or polycyclic ring system which may be substituted."

In addition to the differences outlined by the Examiner on page 3 of the pending Office Action, Applicant believes Imuta, et al. fails to disclose, teach, or suggest the currently claimed transition metal compound in which  $R^3$  is a  $C_6$ - $C_{18}$  aryl,  $C_4$ - $C_{18}$ -heteroaryl, fluorinated  $C_6$ - $C_{20}$  aryl,  $C_7$ - $C_{20}$  alkylaryl, wherein the aryl part may comprise one or more linear or branched  $C_1$ - $C_{18}$  alkyl,  $C_1$ - $C_{18}$  alkoxy,  $C_2$ - $C_{10}$  alkenyl, or  $C_3$ - $C_{15}$  alkylalkenyl group, or  $R^3$  together with  $R^4$  forms a monocyclic or polycyclic ring system which

may be substituted.

In fact,  $R^3$  in the transition metal compounds of Imuta, et al., which corresponds to Applicant's  $R^3$ , are disclosed as being an alkyl group of 2 to 20 carbon atoms, with  $R^3$  preferably being a secondary or tertiary alkyl group. Additionally, Imuta, et al. discloses particular examples of  $R^3$  include a chain alkyl groups and a cyclic alkyl groups, such as ethyl, n-propyl, i-propyl, n-butyl, i-butyl, sec-butyl, tert-butyl, pentyl, hexyl, cyclohexyl, heptyl, octyl, nonyl, dodecyl, icosyl, norbornyl and adamantly, as well as arylalkyl groups, such as benzyl, phenylethyl, phenylpropyl and tolylmethyl. See col. 8, lines 37-51.

Additionally, Applicant believes there is no motivation to modify Imuta, et al. to arrive at the currently claimed transition metal compounds. In fact, Applicant selectively chose the substitution pattern on the currently claimed ligand system to provide novel  $C_1$ - and  $C_2$ -symmetric metallocenes as catalysts or catalyst constituents for olefin polymerization which avoid the disadvantages of the prior art, and which make it possible to control and target the polymerization behavior of the transition metal compounds and the properties of the resulting polymer. See page 1, line 39 - page 2, line 34 of Applicant's specification.

In light of the above, claims 12 - 21 are therefore believed to be patentable over Imuta, et al. Accordingly, reconsideration and withdrawal of the rejection is requested.

3. Allowable Subject Matter

Applicant kindly thanks the Examiner for pointing out claim 6 is allowable. Claim 6 has been cancelled, however, new claim 17 reads on previously pending claim 6. Accordingly, Applicant believes new pending claim 17 is allowable.

**CONCLUSION**

Based upon the above remarks, the presently claimed subject matter is believed to be novel and patentably distinguishable over the references of record. The Examiner is therefore respectfully requested to reconsider and withdraw all rejections and allow all pending claims 12 - 21. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned practitioner if he has any questions or comments.

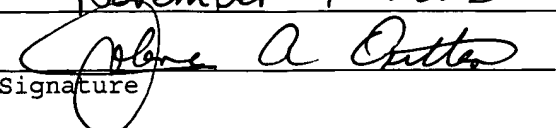
Respectfully submitted,

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